Access DB# 156807

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sin J. Lee Examiner #: 76060 Date: 6-16-2005
Art Unit: 1752 Phone Number 30 2-1333 Serial Number: 10/689,482
Mail Box and Bldg/Room Location: 9D60 (Rem.) Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Please see B.6.

Inventors (please provide full names):

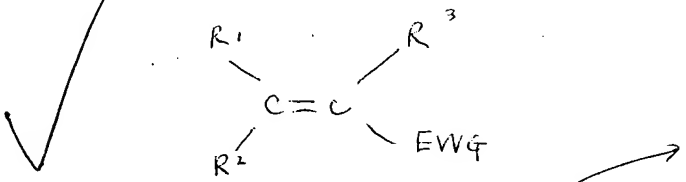
Earliest Priority Filing Date:

SCIENTIFIC REFERENCE BR
Sci & Tech Inf - Cnt
JUN 17 RECD
Pat. & T.M. Office

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Lll689A

- Please search for a polymer which has the following moiety in the side chain



(These R's can be anything)

R_3 ≠ EWG can form a ring.

R_1 can be Electron donating gp

R_1 and R_2 can form a ring.

(EWG = non-aromatic electron withdrawing gp.

Such as carbonyl (−C(=O)−), cyano (−C≡N), imino (−N=C<), carboxylic acid (−COOH), carboxylic ester (−COOR), carboxamido (−C(=O)−N<), carboximido or sulfonyl gp (−S(=O)(=O)−)

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STAFF USE ONLY

	Type of Search		Vendors and cost where applicable	
Searcher: K. Fuller	NA Sequence (#)		STN	✓
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)	2	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic		Dr.Link	
Date Completed: 6/1/05	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 30	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 60	Other		Other (specify)	

PTO-1590 (8-01)

=> FILE REG
FILE 'REGISTRY' ENTERED AT 15:10:39 ON 01 JUL 2005

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 30 JUN 2005 HIGHEST RN 853560-59-5
DICTIONARY FILE UPDATES: 30 JUN 2005 HIGHEST RN 853560-59-5

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 18, 2005

Please note that search-term pricing does apply when conducting SmartSELECT searches.

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*
****

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> FILE HCAPLUS
FILE 'HCAPLUS' ENTERED AT 15:10:44 ON 01 JUL 2005

FILE COVERS 1907 - 1 Jul 2005 VOL 143 ISS 2
FILE LAST UPDATED: 30 Jun 2005 (20050630/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

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=> D QUE
L1             1 SEA FILE=HCAPLUS ABB=ON  US2003-689482/AP
L5               SCR 2043
L12         1017 SEA FILE=HCAPLUS ABB=ON  CONJUGAT?(4A)(ALICYCL? OR ALIPHAT?)
L14          235 SEA FILE=HCAPLUS ABB=ON  PHOTOG?/SC,SX AND (NONAROM? OR
                 NON(W)AROM?)
L15        10998 SEA FILE=HCAPLUS ABB=ON  PHOTOG?/SC,SX AND (ALIPHATIC? OR
                 ALICYCL?)
L16        12133 SEA FILE=HCAPLUS ABB=ON  L1 OR L12 OR L14 OR L15
L18              SEL  L16 1- RN :   50795 TERMS  (TERM LIMIT EXCEEDED)
L19              SEL  L16 5886- RN :   43785 TERMS
L20        50794 SEA FILE=REGISTRY ABB=ON  L18
L21        43772 SEA FILE=REGISTRY ABB=ON  L19
L22        89184 SEA FILE=REGISTRY ABB=ON  L20 OR L21
L26              STR
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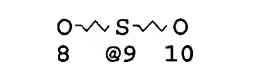

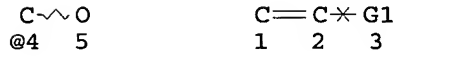

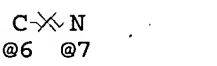

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VAR G1=4/6/7/9
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NSPEC   IS RC     AT   2
NSPEC   IS RC     AT   4
NSPEC   IS RC     AT   6
NSPEC   IS RC     AT   7
NSPEC   IS RC     AT   9
CONNECT IS E1  RC AT   5
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  10

STEREO ATTRIBUTES: NONE
L29        11876 SEA FILE=REGISTRY SUB=L22 SSS FUL L26 AND L5
L33         6982 SEA FILE=REGISTRY ABB=ON  L29 NOT 46.150.18/RID
L34       250407 SEA FILE=HCAPLUS ABB=ON  L33
L35        33598 SEA FILE=HCAPLUS ABB=ON  L34(L)PREP/RL
L36           23 SEA FILE=HCAPLUS ABB=ON  L35(L)CHROMOPHOR?
L39         2028 SEA FILE=HCAPLUS ABB=ON  L33 AND (L12 OR L15 OR L14 )
L40         1722 SEA FILE=HCAPLUS ABB=ON  L39 AND PHOTOG?/SC
L41            3 SEA FILE=HCAPLUS ABB=ON  L40 AND CHROMOPHOR?
L42           25 SEA FILE=HCAPLUS ABB=ON  L36 OR L41
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KATHLEEN FULLER EIC 1700 REMSON 4B28 571/272-2505

=> D L42 1-25 BIB ABS IND HITSTR

L42 ANSWER 1 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:1970 HCAPLUS
DN 142:103071
TI Organosols comprising a chromophore, methods and uses
IN Stulc, Leonard J.; Qian, Julie Y.; Baker, James A.
PA USA
SO U.S. Pat. Appl. Publ., 18 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 1

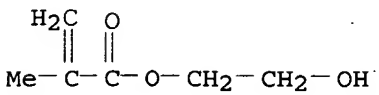
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004265724	A1	20041230	US 2003-612443	20030630
	EP 1494083	A1	20050105	EP 2004-253865	20040629
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
	JP 2005023319	A2	20050127	JP 2004-194464	20040630
PRAI	US 2003-612443	A	20030630		

AB Amphipathic copolymers are provided comprising one or more S portions and one or more D portions. The copolymers have a chromophore covalently bonded thereto via a urethane, urea or amide linkage. These copolymers provide exceptionally useful components in toner compns., because they provide easily prepared color-imparting particles that provide excellent color rendition.

IC ICM G03G009-13
INCL 430114000; 430137150; 430137220
CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38
ST organosol chromophore electrophotog toner
IT Electrophotographic toners
(organosols comprising chromophore for)
IT 2094-99-7DP, Dimethyl-m-isopropenyl benzyl isocyanate, reaction product with acrylate copolymer with hydroxy group **34888-27-2DP**, 2-Hydroxyethyl methacrylate-lauryl methacrylate copolymer, reaction product with di-Me isopropenyl benzyl isocyanate 817589-80-3P
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(organosols comprising **chromophore** for electrophotog. toner)
IT **34888-27-2DP**, 2-Hydroxyethyl methacrylate-lauryl methacrylate copolymer, reaction product with di-Me isopropenyl benzyl isocyanate
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(organosols comprising **chromophore** for electrophotog. toner)
RN 34888-27-2 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, dodecyl ester, polymer with 2-hydroxyethyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

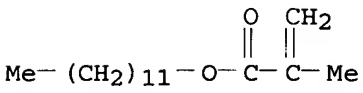
CM 1

CRN 868-77-9
CMF C6 H10 O3



CM 2

CRN 142-90-5
CMF C16 H30 O2



L42 ANSWER 2 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2004:376666 HCAPLUS
DN 141:89499
TI PVK-based polymers with a high density of chromophores and improved processibility: synthesis and second-order nonlinearity optical properties
AU Hua, Jianli; Luo, Jindong; Long, Kai; Qin, Jingui; Li, Shaojun; Ye, Cheng; Lu, Zuhong
CS Institute of Fine Chemicals, East China University of Science and Technology, Shanghai, 200237, Peop. Rep. China
SO European Polymer Journal (2004), 40(6), 1193-1198
CODEN: EUPJAG; ISSN: 0014-3057
PB Elsevier Science B.V.
DT Journal
LA English
AB Five new poly(N-vinylcarbazole) (PVK)-based polymers, containing a high d. of second-order nonlinear optical (NLO) chromophores, are synthesized and described. Specifically, PVK is partially formylated by the standard Vilsmeier reaction, and the formyl groups of high reactivity are condensed with cyanoacetylated chromophores to afford PVK-based polymers in almost complete conversion. Their structures were verified by 1H NMR, IR, and UV-visible spectra. TGA results show that the modified polymers are thermally stable up to around 290°. The values of the NLO coefficient d33 of the five polymers, measured by in situ second harmonic generation, are 22.3, 20.9, 15.7, 5.6 and 11.5 pm/V, resp.
CC 35-8 (Chemistry of Synthetic High Polymers)
ST nonlinear optical cyanoacetylated chromophore contg polyvinylcarbazole
IT Electrooptical effect
Glass transition temperature
Second-harmonic generation
Second-order nonlinear optical properties
Thermal stability
UV and visible spectra
(synthesis and second-order nonlinearity optical properties of poly(N-vinylcarbazole)-based polymers with high d. of chromophores and improved processibility)
IT 577976-38-6P 717133-89-6P 717133-90-9P 717133-91-0P 717133-92-1P
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(chromophore; in synthesis and second-order nonlinearity optical properties of poly(N-vinylcarbazole)-based polymers with high d. of chromophores and improved processibility)

IT 372-09-8, Cyanoacetic acid 163709-17-9 255372-22-6 357657-24-0
717133-93-2 717133-94-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(esterification of, with cyanoacetic acid; in synthesis of chromophores for preparation of nonlinear optical poly(N-vinylcarbazole)-based polymers with improved processibility)

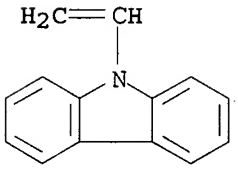
IT 93-61-8DP, N-Methylformanilide, reaction products with poly(N-vinylcarbazole), cyanoacetylated chromophore derivs.
25067-59-8DP, Poly(N-vinylcarbazole), formylated, cyanoacetylated **chromophore** derivs. 577976-38-6DP, reaction products with formylated poly(N-vinylcarbazole) 717133-89-6DP, reaction products with formylated poly(N-vinylcarbazole) 717133-90-9DP, reaction products with formylated poly(N-vinylcarbazole) 717133-91-0DP, reaction products with formylated poly(N-vinylcarbazole) 717133-92-1DP, reaction products with formylated poly(N-vinylcarbazole)
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis and second-order nonlinearity optical properties of poly(N-vinylcarbazole)-based polymers with high d. of **chromophores** and improved processibility)

IT **25067-59-8DP**, Poly(N-vinylcarbazole), formylated, cyanoacetylated **chromophore** derivs.
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(synthesis and second-order nonlinearity optical properties of poly(N-vinylcarbazole)-based polymers with high d. of **chromophores** and improved processibility)

RN 25067-59-8 HCAPLUS
CN 9H-Carbazole, 9-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1484-13-5
CMF C14 H11 N



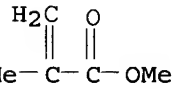
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 3 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:666768 HCAPLUS
DN 140:60662
TI Polymeric electrooptic light modulator based on grating-coupled surface plasmon resonance
AU Chun, Hyunaee; Sung, Chong S. P.; Sawin, Ray; Reily, Mike; Fernandez, Salvador; Choi, Dong H.; Lim, Kisoo
CS Polymer Program, Institute of Materials Science, University of Connecticut, Storrs, CT, 06269, USA
SO PMSE Preprints (2003), 89, 457-459
CODEN: PPMRA9; ISSN: 1550-6703
PB American Chemical Society
DT Journal; (computer optical disk)

LA English
AB The side-chain nonlinear optical PMMA with pendant N-methylamino-4'-nitroazobenzene chromophore was synthesized and poled. Its absorption maximum determined by UV-VIS spectrometer is 500 nm and glass temperature is 93°.
This work reports the first fabrication and demonstration of a grating-coupled electrooptic modulator. By switching on and off of the applied voltage of 5V, the subsequent variation of OSPR was observed clearly.
CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 73, 76
ST PMMA methylaminonitroazobenzene pendant side chain nonlinear optical prepn; electrooptic modulator fabrication
IT Electrooptical materials
Electrooptical modulators
(preparation and SPR signal of pedant-containing PMMA electrooptic light modulator based on grating-coupled surface plasmon resonance)
IT **9011-14-7DP**, PMMA, reaction products with -methylamino-nitroazobenzene **chromophore** 122258-49-5DP, reaction products with PMMA
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and SPR signal of pedant-containing PMMA electrooptic light modulator based on grating-coupled surface plasmon resonance)
IT **9011-14-7DP**, PMMA, reaction products with -methylamino-nitroazobenzene **chromophore**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and SPR signal of pedant-containing PMMA electrooptic light modulator based on grating-coupled surface plasmon resonance)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 4 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2002:642506 HCAPLUS
DN 137:317797
TI High-performance resist materials for ArF excimer laser and electron-beam lithography
AU Nozaki, Koji; Yano, Ei
CS Chemical Society of Japan, Japan
SO Fujitsu Scientific & Technical Journal (2002), 38(1), 3-12
CODEN: FUSTA4; ISSN: 0016-2523
PB Fujitsu Ltd.
DT Journal
LA English
AB High-performance resist materials for ArF (argon fluoride) excimer laser

(λ = 193 nm) and electron-beam (EB) lithog. for fabricating 100 nm-level and beyond ULSIs have been developed. For the base polymers of the ArF resists, a novel methacrylate was employed as a base polymer whose ester groups have **chromophores** with a low extinction coefficient at 193 nm. A polycyclic hydrocarbon substituent, called adamantyl, and lactone substituents were introduced for acid-labile ester groups in the methacrylate polymer. The **alicyclic** group provides superior sensitivity, resolution, and dry-etch resistance, while the lactone groups afford compatibility with a standard TMAH (tetramethylammonium hydroxide) developer, good resolution, and adhesion to Si substrates. For the base polymer of the EB resist, the above-mentioned adamantyl methacrylate unit was applied in a vinylphenol copolymer. By optimizing the compns. of these resists and the process conditions, the authors achieved a 100 nm line and space pattern by ArF excimer laser lithog. and a 59 nm hole pattern by EB lithog.

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST resist electron beam lithog vinylphenol adamantyl methacrylate copolymer; vacuum UV lithog photoresist **alicyclic** group contg methacrylate polymer; lactone adamantyl methacrylate copolymer

IT Electron beam resists
(chemical-amplified; imaging property of resists for electron-beam lithog. containing copolymer of vinylphenol and methacrylate monomer with adamantyl- or lactone substituents)

IT Etching
(plasma; imaging property of photoresists for vacuum-UV lithog. containing methacrylate copolymer with adamantyl- and lactone substituents)

IT Glass transition temperature
(properties and preliminary imaging characteristics of methacrylate copolymers with adamantyl- or lactone substituents in relation to to photoresist application)

IT Absorptivity
(resist materials for ArF excimer laser- and electron-beam lithog. based on copolymer containing methacrylate monomers with adamantyl- or lactone substituents)

IT Etching
(sputter, ion-beam, reactive; dry-etch rates of resists for electron-beam lithog. containing copolymer of vinylphenol and methacrylate monomer with adamantyl- or lactone substituents)

IT Photoresists
(vacuum-UV, chemical-amplified; imaging property of photoresists for vacuum-UV lithog. containing methacrylate copolymer with adamantyl- and lactone substituents)

IT 159296-87-4, tert-Butyl acrylate-p-vinylphenol copolymer
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(comparison; imaging property of resists for electron-beam lithog. containing copolymer of vinylphenol and methacrylate monomer with adamantyl- or lactone substituents)

IT 75-59-2, Tetramethylammonium hydroxide
RL: NUU (Other use, unclassified); USES (Uses)
(developer; resist materials for ArF excimer laser- and electron-beam lithog. based on copolymer containing methacrylate monomers with adamantyl- or lactone substituents)

IT **177080-68-1P**, 2-Methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(imaging property of chemical amplified photoresists for vacuum-UV lithog. containing methacrylate copolymer with adamantyl- and lactone substituents)

IT 186585-53-5P, p-Hydroxystyrene-2-Methyl-2-adamantyl methacrylate copolymer
301153-46-8P, 2-Ethyl-2-adamantyl methacrylate-p-hydroxystyrene copolymer
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(imaging property of resists for electron-beam lithog. containing copolymer of vinylphenol and methacrylate monomer with adamantyl- or lactone substituents)

IT 66003-78-9, Triphenylsulfonium triflate
RL: NUU (Other use, unclassified); USES (Uses)
(photoacid generator; resist materials for ArF excimer laser- and electron-beam lithog. based on copolymer containing methacrylate monomers with adamantyl- or lactone substituents)

IT 75-73-0, Carbon tetrafluoride 7440-37-1, Argon, uses 7782-50-5, Chlorine, uses
RL: NUU (Other use, unclassified); USES (Uses)
(plasma etch; dry etch resistance of photoresists for vacuum-UV lithog. containing methacrylate copolymer with adamantyl- and lactone substituents)

IT 177080-66-9P, Mevalonic lactone methacrylate 177080-67-0P, 2-Methyl-2-adamantyl methacrylate 209982-56-9P, 2-Ethyl-2-adamantyl methacrylate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of base polymers of resists for ArF excimer laser- and electron-beam lithog.)

IT **181020-28-0**, Mevalonic lactone methacrylate homopolymer
181020-29-1, Poly(2-Methyl-2-adamantyl methacrylate)
RL: PRP (Properties)
(properties and preliminary imaging characteristics of methacrylate copolymers with adamantyl- or lactone substituents in relation to to photoresist application)

IT 96-48-0, Butyrolactone 97-64-3, Ethyl lactate 108-94-1, Cyclohexanone, uses 617-35-6, Ethyl pyruvate
RL: NUU (Other use, unclassified); USES (Uses)
(resist solvent; imaging property of photoresists for vacuum-UV lithog. containing methacrylate copolymer with adamantyl- and lactone substituents)

IT 108-65-6, Propylene glycol-1-methyl ether-2-acetate
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; resist materials for ArF excimer laser- and electron-beam lithog. based on copolymer containing methacrylate monomers with adamantyl- or lactone substituents)

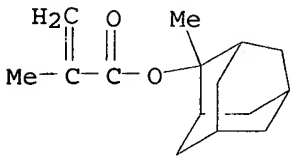
IT **177080-68-1P**, 2-Methyl-2-adamantyl methacrylate-mevalonic lactone methacrylate copolymer
RL: PNU (Preparation, unclassified); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(imaging property of chemical amplified photoresists for vacuum-UV lithog. containing methacrylate copolymer with adamantyl- and lactone substituents)

RN 177080-68-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, polymer with tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

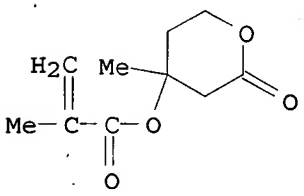
CM 1

CRN 177080-67-0
CMF C15 H22 O2



CM 2

CRN 177080-66-9
CMF C10 H14 O4

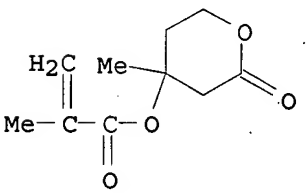


IT **181020-28-0**, Mevalonic lactone methacrylate homopolymer
181020-29-1, Poly(2-Methyl-2-adamantyl methacrylate)
RL: PRP (Properties)
(properties and preliminary imaging characteristics of methacrylate copolymers with adamantyl- or lactone substituents in relation to to photoresist application)

RN 181020-28-0 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, tetrahydro-4-methyl-2-oxo-2H-pyran-4-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

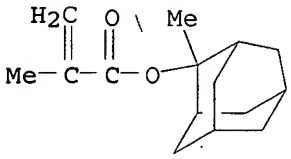
CRN 177080-66-9
CMF C10 H14 O4



RN 181020-29-1 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 177080-67-0
CMF C15 H22 O2



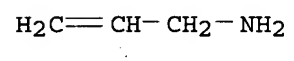
RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 5 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:909557 HCAPLUS
DN 136:167790
TI Fully Reversible Isomerization of Azobenzene Chromophores in Polyelectrolyte Layered Assemblies
AU Suzuki, Iwao; Ishizaki, Toshihiro; Hoshi, Tomonori; Anzai, Jun-ichi
CS Graduate School of Pharmaceutical Sciences, Tohoku University, Aramaki Aoba-ku Sendai, 980-8578, Japan
SO Macromolecules (2002), 35(2), 577-580
CODEN: MAMOBX; ISSN: 0024-9297
PB American Chemical Society
DT Journal
LA English
AB Multilayer assemblies were prepared containing azobenzene chromophores using poly(allylamine) derivative bearing a small amount of pendent azobenzene residues. Phthotochem. and thermal isomerization in those chromophores is fully reversible.
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36
ST azobenzene pendent polyallylamine assembly reversible thermal photochem isomerization
IT Isomerization
(cis-trans, photochem.; fully reversible isomerization of azobenzene chromophores in polyelectrolyte layered assemblies)
IT Isomerization kinetics
(cis-trans, thermal; fully reversible isomerization of azobenzene chromophores in polyelectrolyte layered assemblies)
IT Light-sensitive materials
Polyelectrolytes
(fully reversible isomerization of azobenzene chromophores in polyelectrolyte layered assemblies)
IT Polyamines
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(fully reversible isomerization of azobenzene chromophores in polyelectrolyte layered assemblies)
IT 9080-79-9DP, Sodium poly(styrene sulfonate), assemblies with polyallylamine azobenzene-containing coupling product 26837-42-3DP, Potassium poly(vinyl sulfate), assemblies with polyallylamine azobenzene-containing coupling product **30551-89-4DP**, Poly(allylamine), reaction products with 4-carboxyazobenzene ester, assemblies with sodium poly(styrene sulfonate) or potassium poly(vinyl sulfate) 398145-77-2DP, reaction products with polyallylamine, assemblies with sodium poly(styrene sulfonate) or potassium poly(vinyl sulfate)
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(fully reversible isomerization of azobenzene **chromophores** in polyelectrolyte layered assemblies)

IT **30551-89-4DP**, Poly(allylamine), reaction products with 4-carboxyazobenzene ester, assemblies with sodium poly(styrene sulfonate) or potassium poly(vinyl sulfate)
RL: RCT (Reactant); SPN (Synthetic preparation); **PREP (Preparation)**; RACT (Reactant or reagent)
(fully reversible isomerization of azobenzene **chromophores** in polyelectrolyte layered assemblies)
RN 30551-89-4 HCAPLUS
CN 2-Propen-1-amine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 107-11-9
CMF C3 H7 N



RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 6 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:803879 HCAPLUS
DN 136:93363
TI Comparison of acid-generating efficiencies in 248 and 193-nm photoresists
AU Cameron, James F.; Chan, Nicholas; Moore, Kathryn; Pohlers, Gerd
CS Microelectronic Materials Research and Development Laboratries, Shipley Company, Marlborough, MA, 01752, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (2001), 4345(Pt. 1, Advances in Resist Technology and Processing XVIII), 106-118
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB Photoacid generation is a critical step in the application of chemical amplified (CA) resist technol. During the key exposure step, a catalytic amount of a strong Broensted acid is released within these resists. The photoacid is subsequently used in a post-exposure bake step to catalytically react with the resist polymer. In the case of a pos. tone resist, an acid-sensitive polymer is deprotected to render the exposed areas soluble in dilute aqueous base thereby allowing for pattern development. As the semiconductor concs. on developing 193 nm photoresists for production, it is important to identify and understand differences between prototype 193nm CA resists and current state of the art 248nm photoresists. The major difference between 193 and 248 nm photoresists is the exposure wavelength, which is reduced to achieve high resolution based on the Rayleigh equation. However, this change in wavelength has several ramifications. First, the tried, tested and true phenolic polymers used in DUV resists are too absorbent to be used fo 193nm application and had to be replaced by low absorbing, **nonarom**. systems. Second, since even these new platforms are still more absorbing at 193 nm than the phenolic matrixes are at 248nm, the PAG loading had to be lowered significantly to keep the overall absorbance of the resist down. The results of the systematic studies on understanding the reasons for observed differences in photoacid generating efficiency between 193 and 248nm chemical-amplified resist systems are presented. First, the wavelength effect is studied by comparing the relative

acid-generating efficiency of onium type PAGs in a prototype 193nm and a DUV photoresist at both 193 nm and 248 nm exposure. Second, the photoacid generating efficiency for these PAGs at 238 nm is compared in both phenolic and nonphenolic based photoresists to probe resist polymer matrix effects. Third, these expts. were repeated while varying the PAG loading to probe whether there is an effect of PAG loading on acid generation efficiency. Lastly, by performing all of these studies on 2 different onium PAG classes (iodonium and sulfonium salts), the impact of the PAG **chromophore** on acid generation efficiency in both sensitized and unsensitized environments was probed. In all these studies, the C-parameter method is used to determine the quantum yield of photoacid generation. First, the exposure wavelength was found to play a significant role in determining the acid generation efficiency of both PAGs, efficiency significantly decreases when switching exposure wavelength from 248 to 193nm. Second, also the change in the resist matrix polymer has a profound impact on the manner in which acid is generated: the phenolic matrix enables sensitized acid generation via electron transfer from the matrix to the PAG, whereas in the acrylate polymer only direct acid generation is observed Due to the different oxidation potential of iodonium and sulfonium PAGs, the matrix effect impacts the photoacid generation efficiency of the 2 PAGs very differently. This is apparent in the observed change when going form the phenolic to the methacrylate matrix. Lastly, the presence of the sensitized channel is also responsible for the observed impact of PAG loading in the phenolic polymer, which is largely absent in the acrylate matrix.

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST acid generating efficiency deep UV chem amplified photoresist; hydroxystyrene butyl acrylate lactone methyladamantyl methacrylate polymer ArF resist

IT Photoresists
(chemical amplified ArF; comparison of acid-generating efficiency in 248 and 193-nm photoresists)

IT Electron transfer
(comparison of acid-generating efficiency in 248 and 193-nm photoresists)

IT Bronsted acids
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(comparison of acid-generating efficiency in 248 and 193-nm photoresists)

IT Phenolic resins, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(comparison of acid-generating efficiency in 248 and 193-nm photoresists)

IT 66003-78-9 84563-54-2
RL: TEM (Technical or engineered material use); USES (Uses)
(photoacid generator; comparison of acid-generating efficiency in 248 and 193-nm photoresists)

IT **353459-49-1** 387868-58-8D, partly blocked
RL: TEM (Technical or engineered material use); USES (Uses)
(resist formulation; comparison of acid-generating efficiency in 248 and 193-nm photoresists)

IT **353459-49-1**
RL: TEM (Technical or engineered material use); USES (Uses)
(resist formulation; comparison of acid-generating efficiency in 248 and 193-nm photoresists)

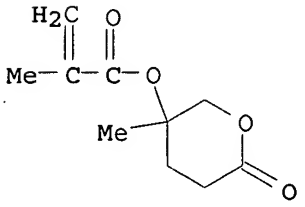
RN 353459-49-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-methyltricyclo[3.3.1.13,7]dec-2-yl ester,

polymer with tetrahydro-3-methyl-6-oxo-2H-pyran-3-yl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

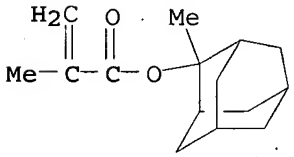
CM 1

CRN 353459-48-0
CMF C10 H14 O4



CM 2

CRN 177080-67-0
CMF C15 H22 O2



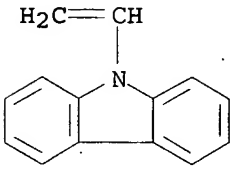
RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 7 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:662251 HCAPLUS
DN 135:358780
TI Synthesis and properties of some composite organic photorefractive materials
AU He, M.; Twieg, R. J.; Gubler, U.; Wright, D.; Moerner, W. E.
CS Department of Chemistry, Kent State University, Kent, OH, 44242, USA
SO Polymer Preprints (American Chemical Society, Division of Polymer Chemistry) (2001), 42(2), 510-511
CODEN: ACPPAY; ISSN: 0032-3934
PB American Chemical Society, Division of Polymer Chemistry
DT Journal; (computer optical disk)
LA English
AB We have combined the functions of optical nonlinearity and charge transport by attaching the NLO chromophore to a charge transport moiety, yielding a useful glassy morphol. Photorefractive performance could be shown for both types of linkers between the chromophore and the charge transporter with net gain at moderate fields. However, the gain coefficient and the photorefractive response time are, so far, clearly inferior to the dicyanostyrene chromophores as dopants in a poly(N-vinyl carbazole) (PVK) matrix. The photorefractive speed seems to be limited by the mol. orientation in the DCST-DCTA compds. This outcome is in clear contrast to the speed limits occurring due to charge redistribution in the PVK systems.

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): 35, 37, 73, 74
ST photorefractive composite nonlinear optical chromophore polyvinylcarbazole
IT Plasticizers
(DOP; synthesis and properties of composites based on organic photorefractive materials)
IT Nonlinear optical materials
(chromophores; synthesis and properties of composites based on organic photorefractive materials)
IT Chromophores
(nonlinear optical; synthesis and properties of composites based on organic photorefractive materials)
IT Molecular orientation
(of nonlinear optical chromophores; synthesis and properties of composites based on organic photorefractive materials)
IT Cyclic voltammetry
Photorefractive materials
Two wave mixing
UV and visible spectra
(synthesis and properties of composites based on organic photorefractive materials)
IT Ellipsometry
(transient; synthesis and properties of composites based on organic photorefractive materials)
IT **25067-59-8P**, Poly(N-vinyl carbazole)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(containing nonlinear optical **chromophores**; synthesis and properties of composites based on organic photorefractive materials)
IT 372098-11-8P 372098-12-9P
RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(nonlinear optical chromophore, poly(N-vinyl carbazole) composites; synthesis and properties of composites based on organic photorefractive materials)
IT 117-81-7, DOP
RL: MOA (Modifier or additive use); USES (Uses)
(plasticizer; synthesis and properties of composites based on organic photorefractive materials)
IT 99685-96-8, C60 Fullerene
RL: MOA (Modifier or additive use); USES (Uses)
(sensitizer; synthesis and properties of composites based on organic photorefractive materials)
IT **25067-59-8P**, Poly(N-vinyl carbazole)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(containing nonlinear optical **chromophores**; synthesis and properties of composites based on organic photorefractive materials)
RN 25067-59-8 HCAPLUS
CN 9H-Carbazole, 9-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1484-13-5
CMF C14 H11 N



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 8 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:417272 HCAPLUS
DN 135:38875
TI **Non-aromatic chromophores** for use in polymer anti-reflective coatings
IN Shao, Xie; Cox, Robert; Deshpande, Shreeram V.; Flaim, Tony D.; Puligadda, Rama
PA Brewer Science, Inc., USA
SO PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001040865	A1	20010607	WO 2000-US25985	20000920
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	EP 1266264	A1	20021218	EP 2000-965290	20000920
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003515793	T2	20030507	JP 2001-542270	20000920
	US 2002045125	A1	20020418	US 2001-961751	20010924
	US 2004067441	A1	20040408	US 2003-689482	20031020
PRAI	US 1999-450966	A	19991130		
	WO 2000-US25985	W	20000920		
	US 2001-961751	B1	20010924		

AB An improved light attenuating compound for use in the production of microdevices is provided. Broadly, the light attenuating compound is **non-aromatic** and can be directly incorporated (either phys. or chemical) into photolithog. compns. such as bottom anti-reflective coating process materials (BARC) and contact or via hole fill materials. The preferred **non-aromatic** compds. of the invention are **conjugated aliphatic** and **alicyclic** compds. which greatly enhance the plasma etch rate of the composition Furthermore, the light attenuating compds. are useful for absorbing light at shorter wavelengths. In one embodiment, the inventive compds. can be polymerized so as to serve as both the polymer binder of the composition as well as the light absorbing constituent.
IC ICM G03C001-76

ICS G03C001-825; G03C001-815
CC 74-3 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
ST arom **chromophore** polymer anti reflective coating
IT Optical materials
(antireflective; **non-aromatic chromophores** for use in polymer anti-reflective coatings)
IT Antireflective films
Chromophores
Optical instruments
Photolithography
(**non-aromatic chromophores** for use in polymer anti-reflective coatings)
IT **343626-15-3P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**non-aromatic chromophores** for use in polymer anti-reflective coatings)
IT **343626-15-3P**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(**non-aromatic chromophores** for use in polymer anti-reflective coatings)
RN 343626-15-3 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, oxiranylmethyl ester, homopolymer, 2,4-hexadienoate (9CI) (CA INDEX NAME)

CM 1

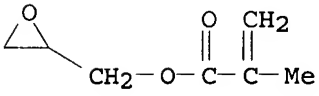
CRN 22500-92-1
CMF C6 H8 O2

CM 2

CRN 25067-05-4
CMF (C7 H10 O3)x
CCI PMS

CM 3

CRN 106-91-2
CMF C7 H10 O3



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 9 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:320037 HCAPLUS
DN 134:334038

TI Composition for marking a solid or liquid product, method for making same, use of same and use of manufacturing method
IN De Lamberterie, Sebastien
PA Cypher Sciences, Fr.
SO PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DT Patent
LA French
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001030936	A2	20010503	WO 2000-FR2992	20001027
	WO 2001030936	A3	20020620		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FR 2800384	A1	20010504	FR 1999-13506	19991028
	FR 2800384	B1	20030110		
	CA 2389027	AA	20010503	CA 2000-2389027	20001027
	BR 2000015073	A	20020618	BR 2000-15073	20001027
	EP 1230388	A2	20020814	EP 2000-974575	20001027
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRAI	FR 1999-13506	A	19991028		
	WO 2000-FR2992	W	20001027		

AB The invention concerns a composition for marking a solid or liquid product and the method for making such a composition The method for making a composition for marking solid or liquid products is characterized in that it consists in producing a covalent bond between fluorescent mols. and porous SiO2 microspheres with mineral phys. base, for example, by reacting porous SiO2 microspheres having primary amine terminations, with fluorescent mols. having terminations reacting with the primary amines such as a succinimidyl ester termination.
IC ICM C09K011-07
ICS G01N033-32; G01N033-44; G01N033-58; C12Q001-68
CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 36
ST fluorescence marking solid liq manuf chromophore grafting silica microsphere
IT Fluorescent indicators
(composition for fluorescent chromophore marking of solid or liquid product including polymers)
IT Adhesives
Inks
Varnishes
(fluorescence substance-marked; composition for fluorescent chromophore marking of solid or liquid product including polymers)
IT Polyamides, preparation
Polycarbonates, preparation
Polyesters, preparation
Polymers, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)

(fluorescence substance-marked; composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT Films
(polymer, fluorescence substance-marked; composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT Microspheres
(porous silica; composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT Amines, uses
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(primary, terminations on porous silica microspheres; composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT 336819-63-7, Uptispheres NH2 336819-79-5, Exsil Amino
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT 117738-17-7D, 1H-Pyrrole-2,5-dione, 1-(formyloxy)-, carbonyl-substituted derivs.
RL: RCT (Reactant); RACT (Reactant or reagent)
(composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT 1321-74-0D, Divinyl benzene, fluorescence substance-grafted microspheres
7631-86-9D, Silica, fluorescence substance-grafted, uses 336819-63-7D, Uptispheres NH2, fluorescence substance-grafted microspheres
336819-79-5D, Exsil Amino, fluorescence substance-grafted microspheres
RL: MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(fluorescence marking agent; composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT 9002-88-4P, Poly(ethylene) 9003-07-0P, Poly(propylene) 9003-53-6P, Polystyrene **9011-14-7P**, Poly(methylmethacrylate)
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(fluorescence substance-marked; composition for fluorescent **chromophore** marking of solid or liquid product including polymers)

IT 1321-74-0, Divinyl benzene, processes
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(microspheres; composition for fluorescent chromophore marking of solid or liquid product including polymers)

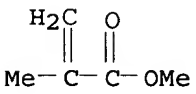
IT 7631-86-9D, Silica, primary amine-terminated, processes
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(porous or normal, microspheres; composition for fluorescent chromophore marking of solid or liquid product including polymers)

IT **9011-14-7P**, Poly(methylmethacrylate)
RL: IMF (Industrial manufacture); **PREP (Preparation)**
(fluorescence substance-marked; composition for fluorescent **chromophore** marking of solid or liquid product including polymers)

RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



L42 ANSWER 10 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 2001:133159 HCAPLUS
DN 134:327027
TI A Postfunctionalization Strategy To Develop PVK-Based Nonlinear Optical Polymers with a High Density of Chromophores and Improved Processibility
AU Luo, Jingdong; Qin, Jingui; Kang, Hu; Ye, Cheng
CS Department of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China
SO Chemistry of Materials (2001), 13(3), 927-931
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB A new strategy for post-functionalization performed on poly(N-vinylcarbazole) (PVK) was explored to develop PVK-based nonlinear optical (NLO) polymers with a high d. of chromophores and improved comprehensive properties. Thus, under the standard Vilsmeier reaction conditions, PVK is partially formylated to a high degree (up to 52% molar ratio), and these formyl groups of high reactivity are condensed with cyanoacetylated DR-1 to afford a DR-1 functionalized PVK in almost complete conversion. The Tg of the resulting polymer is 185 °C, and the orientation behavior of its poled film is studied by UV-visible spectroscopy. The NLO activity, which is estimated to be 20 pm/V by in situ second harmonic generation measurement, remains unchanged at 120 °C for over 1000 h after a minor initial drop.
CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 73, 76
ST nonlinear optical cyanoacetylated Disperse Red 1 functionalized polyvinylcarbazole; second order nonlinear optical polyvinylcarbazole
IT Second-order nonlinear optical properties
(cyanoacetylated Disperse Red 1 functionalized poly(N-vinylcarbazole) is a nonlinear optical polymer with a high d. of chromophores and improved processibility)
IT Second-harmonic generation
(electrooptical; cyanoacetylated Disperse Red 1 functionalized poly(N-vinylcarbazole) is a nonlinear optical polymer with a high d. of chromophores and improved processibility)
IT Glass transition temperature
(of cyanoacetylated Disperse Red 1 functionalization of poly(N-vinylcarbazole) nonlinear optical polymers with a high d. of chromophores and improved processibility)
IT Electrooptical effect
(second-harmonic generation; cyanoacetylated Disperse Red 1 functionalized poly(N-vinylcarbazole) is a nonlinear optical polymer with a high d. of chromophores and improved processibility)
IT 3177-00-2DP, reaction products with poly(N-vinylcarbazole)
25067-59-8DP, Poly(N-vinylcarbazole), reaction products with cyanoacetylated Disperse Red 1
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process)
(cyanoacetylated Disperse Red 1 functionalized poly(N-vinylcarbazole)

is a nonlinear optical polymer with a high d. of **chromophores** and improved processibility)

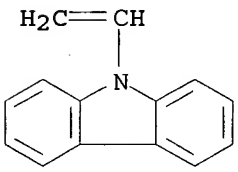
IT 93-61-8 372-09-8, Cyanoacetic acid 2872-52-8, Disperse Red 1 10025-87-3, Phosphorus oxychloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyanoacetylated Disperse Red 1 functionalized poly(N-vinylcarbazole) is a nonlinear optical polymer with a high d. of chromophores and improved processibility)

IT **25067-59-8DP**, Poly(N-vinylcarbazole), reaction products with cyanoacetylated Disperse Red 1
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**; PROC (Process)
(cyanoacetylated Disperse Red 1 functionalized poly(N-vinylcarbazole) is a nonlinear optical polymer with a high d. of **chromophores** and improved processibility)

RN 25067-59-8 HCAPLUS
CN 9H-Carbazole, 9-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1484-13-5
CMF C14 H11 N



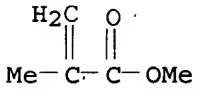
RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 11 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:738171 HCAPLUS
DN 132:64555
TI Exploring chromophore tethered aminoethers as potential photoinitiators for controlled radical polymerization
AU Hu, S.; Malpert, J. H.; Yang, X.; Neckers, D. C.
CS Center for Photochemical Sciences, Bowling Green State University, Bowling Green, OH, 43403-0213, USA
SO Polymer (1999), Volume Date 2000, 41(2), 445-452
CODEN: POLMAG; ISSN: 0032-3861
PB Elsevier Science Ltd.
DT Journal
LA English
AB Compds. 1-4 containing various light absorbing chromophores attached covalently to a hindered aminoether (2,2,6,6-tetramethyl-1-piperidinyloxy (TEMPO)) were synthesized, and their photochem. and photophysics studied in an attempt to develop photoinitiators for radical "living" polymerization Significant shortening of the chromophore's triplet lifetime was observed in 1-4 as compared to analogous compds. containing no alkylated TEMPO moiety, which suggests an intramol. quenching of the excited chromophore by the aminoether functionality. The efficiency of the quenching process depends on the chromophore. Employing 1-4 as unimol. photoinitiators for styrene "living" polymerization was proven to be difficult due to rapid quenching of the
excited state of the initiator by this monomer. Compound 4 was demonstrated

as an initiator for controlled photopolymn. of Me methacrylate.
CC 35-3 (Chemistry of Synthetic High Polymers)
ST chromophore modified TEMPO photoinitiator polymn methyl methacrylate; hindered aminoether chromophore catalyst radical living photopolymn
IT Polymerization catalysts
(radical, living; chromophore-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT 9003-53-6P, Polystyrene
RL: SPN (Synthetic preparation); PREP (Preparation)
(attempted preparation; chromophore-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT 253200-31-6P
RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(chromophore-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**chromophore**-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT 100-41-4, Ethylbenzene, reactions 611-73-4, Benzoylformic acid 611-95-0, 4-Benzoylbenzoic acid 2226-96-2, 4-HydroxyTEMPO 3722-51-8, 3-Hydroxyxanthone 81913-53-3 161776-41-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(in catalyst preparation; chromophore-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT 25363-95-5P 132416-36-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in catalyst preparation; chromophore-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT 253200-28-1P 253200-29-2P 253200-30-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(potential catalyst; chromophore-modified aminoethers as potential photoinitiators for controlled radical polymerization)
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(**chromophore**-modified aminoethers as potential photoinitiators for controlled radical polymerization)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

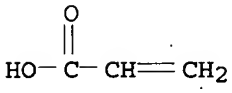
L42 ANSWER 12 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:455982 HCAPLUS
DN 131:221104

TI Photo-fabrication of electroactive polymers for photonics
AU Tripathy, S. K.; Kim, D. Y.; Li, L.; Viswanathan, Nirmal K.; Balasubramanian, S.; Liu, W.; Wu, P.; Bian, S.; Samuelson, L.; Kumar, J.
CS Department of Chemistry, University of Massachusetts at Lowell, Lowell, MA, 01854, USA
SO Synthetic Metals (1999), 102(1-3), 893-896
CODEN: SYMEDZ; ISSN: 0379-6779
PB Elsevier Science S.A.
DT Journal
LA English
AB Novel azo chromophore containing polymers have been synthesized both chemical and enzymically. Surface initiated mechanism for relief structure formation on the azo polymer films have been studied for a high mol. weight azo functionalized poly(acrylic acid) by restricting the free surface in a controlled manner. Enzyme catalyzed poly(phenol) and polyaniline containing azo functional groups have also been synthesized and for the first time the feasibility of these biol. derived electroactive polymers for surface relief grating applications are undertaken.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electroactive polymer photonics photofabrication
IT Phenolic resins, properties
Polyanilines
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(azobenzene chromophore-functionalized; photo-fabrication of electroactive polymers for photonics)
IT Polymerization
(enzyme catalyzed; photo-fabrication of electroactive polymers for photonics)
IT Absorption spectra
Chromophores
Diffraction gratings
(photo-fabrication of electroactive polymers for photonics)
IT Isomerization
(photoisomerization; photo-fabrication of electroactive polymers for photonics)
IT **9003-01-4P**, Poly (acrylic acid)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(azobenzene **chromophore**-functionalized; photo-fabrication of electroactive polymers for photonics)
IT 9003-99-0, Peroxidase
RL: CAT (Catalyst use); USES (Uses)
(photo-fabrication of electroactive polymers for photonics)
IT 60-09-3 82940-66-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(photo-fabrication of electroactive polymers for photonics)
IT **9003-01-4P**, Poly (acrylic acid)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(azobenzene **chromophore**-functionalized; photo-fabrication of electroactive polymers for photonics)
RN 9003-01-4 HCAPLUS
CN 2-Propenoic acid, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 79-10-7

CMF C3 H4 O2



RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 13 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:392342 HCAPLUS
DN 131:145096
TI Photochemical hole burning study of unimacromolecular micelles with controlled radii embedded in poly(vinyl alcohol)
AU Kino, Takashi; Machida, Shinjiro; Horie, Kazuyuki; Yusa, Shinichi; Morishima, Yotaro
CS Dep. Chemistry Biotechnology, Graduate School Engineering, Univ. Tokyo, Tokyo, 113, Japan
SO Macromolecular Chemistry and Physics (1999), 200(6), 1535-1541
CODEN: MCHPES; ISSN: 1022-1352
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB The highly constrained microenvironment and the dependence of the structural relaxation and electron-phonon interaction on the distance between the chromophores and the matrix around them in unimol. micelles (unimers) of amphiphilic random terpolymers containing sodium sulfonate, cyclododecyl (CD), and a small amount of tetraphenylporphine (H2TPP) groups were studied at low temps. using photochem. hole burning spectroscopy. The radii of the terpolymers micelles were controlled, and they were embedded in poly(vinyl alc.). The terpolymers with CD groups form unimers in the polymer matrix. The authors also measured the homopolymers containing CD or sodium sulfonate groups doped with H2TPP or Na salt of sulfonated tetraphenylporphine (TPPS). The burned holes were thermally more stable in the unimer with CD clusters than those both in CD homopolymers and in the hypothetical system where the sodium sulfonate and CD groups are randomly dispersed. The results were attributed to the "pinning down" of the H2TPP species to constrained configurations in the CD cluster. The phonon frequency and the inhomogeneous width are independent of the micelle's radii in the present experiment condition. Then the authors conclude that the electron-phonon interaction and intermol. interaction including van-der-Waals interaction and dipole-dipole interaction are effective within 2.3 nm in the present system.
CC 36-5 (Physical Properties of Synthetic High Polymers)
ST polyacrylate contg tetraphenylporphine micelle hole burning; microenvironment unimacromol micelle
IT Spectral hole burning
(photochem. hole burning of unimacromol. micelles with controlled radii from polyacrylates containing tetraphenylporphine groups embedded in poly(vinyl alc.))
IT Micelles
(unimers; photochem. hole burning of unimacromol. micelles with controlled radii from polyacrylates containing tetraphenylporphine groups embedded in poly(vinyl alc.))
IT **35641-59-9P**, Sodium 2-acrylamido-2-methylpropanesulfonate homopolymer 212891-94-6P, N-Cyclododecylmethacrylamide homopolymer
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**

(**chromophore**-containing; microenvironment of unimacromol. micelles with controlled radii embedded in poly(vinyl alc.) studied by photochem. hole burning in relation to)

IT 917-23-7, Tetraphenylporphyrin 39050-26-5, meso-Tetrakis(4-sulfophenyl)porphyrin tetrasodium salt
RL: NUU (Other use, unclassified); USES (Uses)
(chromophore; in photochem hole burning study of microenvironment of unimacromol. micelles with controlled radii embedded in poly(vinyl alc.))

IT 9002-89-5, Poly(vinyl alcohol)
RL: NUU (Other use, unclassified); USES (Uses)
(microenvironment of unimacromol. micelles with controlled radii embedded in poly(vinyl alc.) studied by photochem. hole burning)

IT 236389-48-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(unimer; microenvironment of unimacromol. micelles with controlled radii embedded in poly(vinyl alc.) studied by photochem. hole burning)

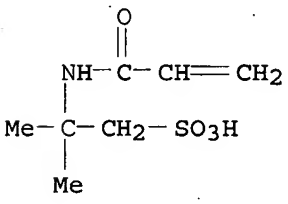
IT **35641-59-9P**, Sodium 2-acrylamido-2-methylpropanesulfonate homopolymer
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(**chromophore**-containing; microenvironment of unimacromol. micelles with controlled radii embedded in poly(vinyl alc.) studied by photochem. hole burning in relation to)

RN 35641-59-9 HCAPLUS

CN 1-Propanesulfonic acid, 2-methyl-2-[(1-oxo-2-propenyl)amino]-, monosodium salt, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 5165-97-9
CMF C7 H13 N O4 S . Na



● Na

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 14 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1999:182927 HCAPLUS
DN 130:297209
TI Methacrylic polymers containing permanent dipole azobenzene chromophores spaced from the main chain. 13C NMR spectra and photochromic properties
AU Altomare, Angelina; Andruzzi, Luisa; Ciardelli, Francesco; Solaro, Roberto; Tirelli, Nicola
CS Department Chemistry Industrial Chemistry, University Pisa, Pisa, I-56126, Italy
SO Macromolecular Chemistry and Physics (1999), 200(3), 601-608

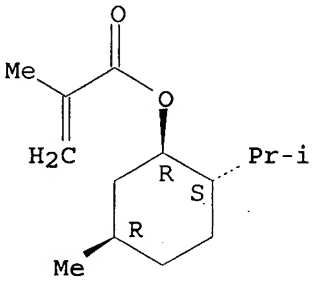
CODEN: MCHPES; ISSN: 1022-1352
PB Wiley-VCH Verlag GmbH
DT Journal
LA English
AB Dynamics in solution and photochromic properties of radical copolymers of 4-(4-oxy-4'-cyanoazobenzene)but-1-yl methacrylate, 6-(4-oxy-4'-cyanoazobenzene)hex-1-yl methacrylate, and 8-(4-oxy-4'-cyanoazobenzene)oct-1-yl methacrylate with (-)-menthyl methacrylate were investigated. 13C NMR and 2D HETCOR spectroscopy allowed assignment of 13C NMR signals and evaluation of main chain tacticity. 13C T1 relaxation times evidenced a rather limited mobility of the azobenzene chromophores when inserted in polymer macromols. Mobility increased with increasing the length of the polymethylene spacer that acted as a flexible joint between the aromatic chromophore and polymer backbone. Both the trans to cis photoisomerization and the cis to trans thermal isomerization processes showed a small dependence on monomer structure and chemical composition of the investigated photochromic polymers. These data seem to suggest an appreciable contribution of the in-plane inversion mechanism to both isomerization processes of the azobenzene chromophores. The absence of appreciable dichroic bands in the copolymer CD spectra and the neg. results obtained in preliminary second harmonic generation measurements are discussed in terms of the polymer structural features.
CC 36-5 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 73
ST oxycyanoazobenzenealkyl methacrylate menthyl copolymer NMR UV photochromic property
IT NMR (nuclear magnetic resonance)
(carbon 13, 2D; preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene chromophores)
IT Isomerization kinetics
Isomerization kinetics
(cis-trans, photochem.; preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene chromophores)
IT Isomerization kinetics
(cis-trans, thermal; preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene chromophores)
IT Dielectric relaxation
(dipolar; preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene chromophores)
IT Polymer chains
UV and visible spectra
(preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene chromophores)
IT 223389-28-4
RL: PRP (Properties)
(model compound; preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene chromophores)
IT **31369-44-5P** 223389-21-7P, (-)-Menthyl methacrylate-4-(4-oxy-4'-cyanoazobenzene)but-1-yl methacrylate copolymer 223389-22-8P 223389-24-0P 223389-25-1P 223389-26-2P 223389-27-3P
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene **chromophores**)
IT **31369-44-5P**
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and photochromic properties of methacrylic polymers containing side-chain permanent dipole azobenzene **chromophores**)

RN 31369-44-5 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, (1R,2S,5R)-5-methyl-2-(1-methylethyl)cyclohexyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 2231-91-6
CMF C14 H24 O2

Absolute stereochemistry. Rotation (-).



RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 15 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:772662 HCAPLUS
DN 130:88026
TI Photochemical reactions of polymethacrylate containing pendant carbazole chromophores with carbon tetrabromide and its practical application to the photoresist system
AU Wada, Yoshio; Endo, Masaki; Horiuchi, Yasutake; Ito, Shinzaburo; Yamamoto, Masahide
CS Department of Chemistry and Materials Technology, Kyoto Institute of Technology, Kyoto-shi, Sakyo-ku, 606-8585, Japan
SO Nippon Insatsu Gakkaishi (1998), 35(5), 398-405
CODEN: NIGAEV; ISSN: 0914-3319
PB Nippon Insatsu Gakkai
DT Journal
LA Japanese
AB The photochem. reaction of N-ethylcarbozole (EtCz) and carbon tetrabromide (CTB) yields a dye of EtCz trimer (similar to triphenylmethane dye) by a multi-step reaction of EtCz with CTB. In the current study, we applied the principles of this reaction to polymer systems of poly[2-(9-carbazolyl)ethyl methacrylate](PCzEMA) with CTB. The irradiation of PCzEMA film doped with CTB (CTB/PCzEMA) induced the dimerization between two Cz chromophores, which was monitored by the increase of absorption at 670 nm. Since the reactive intermediate of Cz that was substituted with CBr2 was stable, the rate of dimerization gradually accelerated as the sample was allowed to warm in the dark. The CTB/PCzEMA system does not form a trimer of Cz chromophores which is similar to triphenylmethane dye, but the dimerization reaction of the chromophoric groups resulted in photocrosslinking of the PCzEMA film. Then, the photosensitivity of CTB/PCzEMA film was compared with CTB/polyvinylcarbazole and polyvinyl cinnamate films through irradiation with a carbon arc lamp.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST photochem reaction polymethacrylate pendant carbazole carbon tetrabromide; photoresist photochem reaction

aromatic

IT Absorption spectra
Chromophores
Crosslinking
Dimerization
Photochemistry
Photoresists
Reaction kinetics
(photochem. reactions of polymethacrylate containing pendant carbazole chromophores with carbon tetrabromide and practical application to photoresist system)

IT Crosslinking
(photochem.; photochem. reactions of polymethacrylate containing pendant carbazole chromophores with carbon tetrabromide and practical application to photoresist system)

IT 29692-07-7, Poly[2-(9-carbazolyl)ethyl methacrylate]
RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
(photochem. reactions of polymethacrylate containing pendant carbazole chromophores with carbon tetrabromide and practical application to photoresist system)

IT 24968-99-8P, Poly(vinyl cinnamate) **25067-59-8P**, Poly(N-vinyl carbazole)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(photochem. reactions of polymethacrylate containing pendant carbazole **chromophores** with carbon tetrabromide and practical application to photoresist system)

IT 86-74-8, Carbazole 558-13-4, Carbon tetrabromide
RL: RCT (Reactant); RACT (Reactant or reagent)
(photochem. reactions of polymethacrylate containing pendant carbazole chromophores with carbon tetrabromide and practical application to photoresist system)

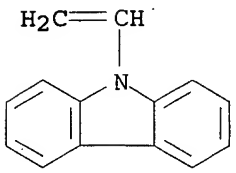
IT 1484-14-6P, 9H-Carbazole-9-ethanol 15657-91-7P, 2-(9-Carbazolyl)ethyl methacrylate
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(photochem. reactions of polymethacrylate containing pendant carbazole chromophores with carbon tetrabromide and practical application to photoresist system)

IT **25067-59-8P**, Poly(N-vinyl carbazole)
RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(photochem. reactions of polymethacrylate containing pendant carbazole **chromophores** with carbon tetrabromide and practical application to photoresist system)

RN 25067-59-8 HCAPLUS
CN 9H-Carbazole, 9-ethenyl-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 1484-13-5
CMF C14 H11 N



L42 ANSWER 16 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:543130 HCAPLUS
DN 129:195611
TI Fluorescent host-guest-system
IN Devlin, Brian Gerrard; Otani, Junji; Kunimoto, Kazuhiko; Iqbal, Abul; Eldin, Sameer Hosam
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 81 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 6

benzo-9P containing chromophore

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9833866	A1	19980806	WO 1998-EP318	19980121
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9862120	A1	19980825	AU 1998-62120	19980121
	AU 730993	B2	20010322		
	EP 968253	A1	20000105	EP 1998-904111	19980121
	EP 968253	B1	20020213		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE, PT, IE, FI				
	JP 2001509832	T2	20010724	JP 1998-532508	19980121
	AT 213265	E	20020215	AT 1998-904111	19980121
	ES 2164417	T3	20020216	ES 1998-906882	19980121
	PT 963426	T	20020228	PT 1998-906882	19980121
	ES 2171289	T3	20020901	ES 1998-904111	19980121
	ES 2227805	T3	20050401	ES 1998-907969	19980121
	US 6103446	A	20000815	US 1998-17869	19980203
	US 6146809	A	20001114	US 1998-17868	19980203
	US 6274065	B1	20010814	US 1998-17871	19980203
	US 2001016269	A1	20010823	US 1998-17872	19980203
	US 6413655	B2	20020702		
	TW 509717	B	20021111	TW 1998-87101741	19980210
	TW 518360	B	20030121	TW 1998-87101743	19980210
	TW 526252	B	20030401	TW 1998-87101742	19980210
	TW 220902	B1	20040911	TW 1998-87101739	19980210
	US 2003023097	A1	20030130	US 2002-135809	20020430
	US 6562981	B2	20030513		
PRAI	EP 1997-810049	A	19970203		
	EP 1997-810050	A	19970203		
	EP 1997-810051	A	19970203		
	EP 1997-810054	A	19970204		
	EP 1997-810055	A	19970204		

WO 1998-EP318 W 19980121
US 1998-17872 A3 19980203

AB Compns. comprising a solid organic support material to which, either directly or via a bridging group, are covalently linked fluorescent host chromophores and fluorescent guest chromophores are described in which the fluorescence emission spectrum of the host chromophore overlaps with the absorption spectrum of the guest chromophore and wherein the host chromophore is selected from the benzo[4,5]imidazo[2,11-a]isoindol-11-ones. Processes for preparing the compns. entail reacting chromophores attached to appropriate groups, optionally along with selected monomers, to produce the desired compds. Use of the compns. as fluorescent materials and in the production of high relief patterns is also described.

IC ICM C09K011-06
ICS C07D487-04; C09B057-12

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 38, 42, 74

ST substrate bound fluorescent host guest systems

IT Fluorescent pigments
Fluorescent substances
Photoresists
(fluorescent host-guest systems and their preparation and use)

IT 81-88-9, Rhodamine B 530-62-1, N,N'-Carbonyl diimidazole 619-05-6, 3,4-Diaminobenzoic acid 868-77-9 1047-16-1, Quinacridone 4741-53-1, Tetraphenylphthalic anhydride 7719-09-7, Thionyl chloride 30030-25-2 194029-75-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(fluorescent host-guest systems and their preparation and use)

IT 141098-60-4P 211447-37-9P 211447-38-0P 211487-36-4P 211496-71-8P 211496-72-9P 211496-73-0P 211621-45-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(fluorescent host-guest systems and their preparation and use)

IT **26355-01-1DP**, Hydroxyethyl methacrylate-methyl methacrylate copolymer, reaction products with **chromophores** 211621-47-5P 211697-13-1P 211697-14-2P 211697-15-3P
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(fluorescent host-guest systems and their preparation and use)

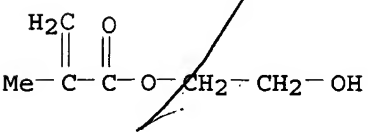
IT **26355-01-1DP**, Hydroxyethyl methacrylate-methyl methacrylate copolymer, reaction products with **chromophores**
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); **PREP (Preparation)**; USES (Uses)
(fluorescent host-guest systems and their preparation and use)

RN 26355-01-1 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with methyl 2-methyl-2-propenoate (9CI) (CA INDEX NAME)

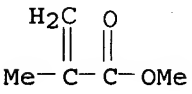
CM 1

CRN 868-77-9
CMF C6 H10 O3



CM 2

CRN 80-62-6
CMF C5 H8 O2



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 17 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1998:238538 HCAPLUS
DN 128:257754
TI Dimethylketene: plasma-generated gas-phase precursor of photoluminescence chromophores in plasma polymerized films of methyl methacrylate and tetramethyl-1,3-cyclobutanedione
AU Pan, Y. Vickie; Denton, Denice D.
CS Engineering Research Center for Plasma-Aided Manufacturing, Department of Chemistry, University of Wisconsin-Madison, Madison, WI, 53706, USA
SO Plasmas and Polymers (1997), 2(3), 165-175
CODEN: PLPOFQ; ISSN: 1084-0184
PB Plenum Publishing Corp.
DT Journal
LA English
AB The gas-phase chemical of tetramethyl-1,3-cyclobutanedione (TMCB) and formaldehyde plasmas was studied by in-situ FTIR Spectroscopy, as part of the mechanism of plasma polymerization of MMA. Previous work indicated that Me methacrylate (MMA) dissocs. to intermediate species of dimethylketene (DMK) and formaldehyde in MMA plasmas. FTIR spectra confirmed the presence of DMK in TMCB plasmas and a polymeric thin film was deposited. Formaldehyde plasmas did not deposit any film under the exptl. conditions. Plasma polymerized TMCB (PPTMCB) films exhibit UV photoluminescence similar to that of PPMMA films. Therefore, DMK is proposed to be the gas-phase precursor of photoluminescence chromophores in both PPMMA and PPTMCB films.
CC 35-4 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 36, 74
ST methylcyclobutanedione plasma polymn dimethylketene intermediate; photoluminescence methylcyclobutanedione polymer plasma generated; methyl methacrylate plasma polymn dimethylketene intermediate; formaldehyde plasma polymn mechanism
IT Chromophores
Luminescence
Plasma
(dimethylketene photoluminescence chromophore precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)
IT Polyketones
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(dimethylketene photoluminescence chromophore precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)
IT Polymerization
(plasma; dimethylketene photoluminescence chromophore precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)

IT 50-00-0, Formaldehyde, reactions 933-52-8, Tetramethyl-1,3-cyclobutanedione
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(dimethylketene photoluminescence chromophore precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)

IT **9011-14-7P**, Poly(methyl methacrylate) 205440-41-1P, Tetramethyl-1,3-cyclobutanedione polymer
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(dimethylketene photoluminescence **chromophore** precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)

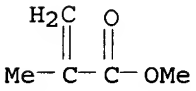
IT 598-26-5P, Dimethylketene
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; dimethylketene photoluminescence chromophore precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)

IT **9011-14-7P**, Poly(methyl methacrylate)
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(dimethylketene photoluminescence **chromophore** precursor in plasma polymerized poly(Me methacrylate) and poly(tetramethylcyclobutanedione) films)

RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 18 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:304366 HCAPLUS
DN 126:343895
TI Radical copolymerization of 2-(3'-acryloxy)propoxythioxanthone and 1-methyl-4-(3'-acryloxy)propoxythioxanthone with methyl methacrylate
AU Corrales, T.; Catalina, F.; Peinado, C.; Madruga, E. L.; Allen, N. S.
CS Instituto Ciencia tecnologia Polimeros, CSIC, Madrid, 18006, Spain
SO Polymer International (1997), 42(4), 397-403
CODEN: PLYIEI; ISSN: 0959-8103
PB Wiley
DT Journal
LA English
AB Two new monomers based on thioxanthone, 2-(3-acryloxy)propoxythioxanthone (M-2) and 1-methyl-4-(3'-acryloxy)propoxythioxanthone (M-4), were prepared and their radical copolymn. at 70° with Me methacrylate (MMA) was studied. The reactivity ratios were determined by varying the conversion

Aromatic.

reached for a fixed feed composition, fMMA = 0.983, and using Jaacks method. Identical values of reactivity ratios were found for both systems, with values of rMMA = 2.46 and rM-2 = rM-4 = 0.4. The homopolymn. of MMA in the presence of a model compound, 1-methyl-4-propoxythioxanthone, was also examined and confirmed that the thioxanthone chromophore does not have any influence on the free radical polymerization of MMA.

CC 35-3 (Chemistry of Synthetic High Polymers)

ST radical copolymn acryloxypropoxythioxanthone Me methacrylate; methylacryloxypropoxythioxanthone radical copolymn Me methacrylate; reactivity ratio polymn thioxanthone deriv methacrylate

IT Reactivity ratio in polymerization
(of acryloxypropoxythioxanthones with Me methacrylate in relation to chromophore and position)

IT 106221-20-9
RL: NUU (Other use, unclassified); USES (Uses)
(model compound; preparation of PMMA in presence of thioxanthone model compound
in relation to chromophore effect on polymerization)

IT 79-10-7, 2-Propenoic acid, reactions 144482-65-5 190074-98-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(monomer starting material; reactivity ratios in polymerization of acryloxypropoxythioxanthones with Me methacrylate in relation to chromophore and position)

IT **9011-14-7P**, PMMA
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of PMMA in presence of thioxanthone model compound in relation to **chromophore** effect on polymerization)

IT 80-62-6, Methyl methacrylate 189892-61-3 189892-63-5
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(reactivity ratios in polymerization of acryloxypropoxythioxanthones with Me methacrylate in relation to chromophore and position)

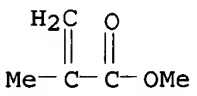
IT **9011-14-7P**, PMMA
RL: PRP (Properties); SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of PMMA in presence of thioxanthone model compound in relation to **chromophore** effect on polymerization)

RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L42 ANSWER 19 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:410753 HCAPLUS
DN 121:10753

TI Efficient second-harmonic generation from all-polymeric Langmuir-Blodgett "AB" films containing up to 600 layers

AU Hodge, Philip; Ali-Adib, Ziad; West, David; King, Terence A.
CS Department of Chemistry, University of Manchester, Oxford Road, Manchester, M13 9PL, UK

SO Thin Solid Films (1994), 244(1-2), 1007-11
CODEN: THSFAP; ISSN: 0040-6090
DT Journal
LA English

AB Alternating Langmuir-Blodgett films were prepared for second harmonic (SH) generation from an "active" polymer containing a hemicyanine chromophore and various "passive" polymers. With the best "passive" polymer, films containing up to 300 active layers (600 layers in total with a total thickness of 1.5μm) had the intensity of the SH signal produced from incident light of wavelength 1.064 μm proportional to the square of the number of active layers. The intensity of the SH signal was unchanged after the film had been left in the dark at 20° for 8 mo. Over a period of 4 days the intensity of the SH signal was stable at 60° but unstable at 80°.

CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 74
ST second harmonic generation Langmuir polymer film

IT Laser radiation
(of polymeric Langmuir-Blodgett "AB" films containing up to 600 layers)

IT Optical nonlinear property
(second-harmonic generation, of polymeric Langmuir-Blodgett "AB" films containing up to 600 layers)

IT 143-15-7DP, Dodecyl bromide, reaction products with polyacrylamide 2315-40-4DP, 1-Hexadecyl-4-methylpyridinium bromide, reaction products with formylated poly(methylphenylaminoethyl acrylate) **9003-05-8DP**, Polyacrylamide, reaction products with dodecyl bromide **9011-15-8P**, Poly(isobutyl methacrylate) 27456-15-1P 76010-15-6P
RL: **PREP (Preparation)**
(Langmuir-Blodgett "AB" films from hemicyanine **chromophore**-containing active polymer and passive, second-harmonic generation of)

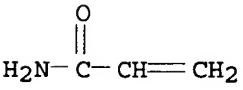
IT 127351-85-3DP, formylated, reaction products with hexadecylpicolinium bromide
RL: PREP (Preparation)
(Langmuir-Blodgett "AB" films from passive polymer and active, second-harmonic generation of)

IT **9003-05-8DP**, Polyacrylamide, reaction products with dodecyl bromide **9011-15-8P**, Poly(isobutyl methacrylate)
RL: **PREP (Preparation)**
(Langmuir-Blodgett "AB" films from hemicyanine **chromophore**-containing active polymer and passive, second-harmonic generation of)

RN 9003-05-8 HCAPLUS
CN 2-Propenamide, homopolymer (9CI) (CA INDEX NAME)

CM 1

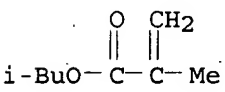
CRN 79-06-1
CMF C3 H5 N O



RN 9011-15-8 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, 2-methylpropyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 97-86-9
CMF C8 H14 O2

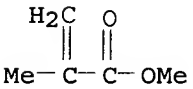


L42 ANSWER 20 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1994:78327 HCAPLUS
DN 120:78327
TI New cross-linkable polymers with second-order nonlinear optical chromophores in the main chain
AU Xu, Chenzeng; Wu, Bo; Dalton, Larry R.
CS Dep. Chem., Univ. South. California, Los Angeles, CA, 90089-1062, USA
SO Proceedings of SPIE-The International Society for Optical Engineering (1993), 1852(Nonlinear Optical Properties of Advanced Materials), 198-205
CODEN: PSISDG; ISSN: 0277-786X
DT Journal
LA English
AB A new class of main-chain second-order nonlinear optical (NLO) polymers are developed via well-developed condensation polymerization methods. In these polymers, the NLO chromophore dipoles are expected to be randomly arranged along the polymer backbone (i.e., the dipoles can be head-to-tail, head-to-head, or tail-to-tail). For comparison, a side-chain polymer having virtually the same chromophore as a pendant has also been prepared The effect of variation in polymer structure on the second-order NLO properties and the effect of crosslinking on the stability of poling-induced macroscopic order are studied. The results demonstrate that the random main-chain, second-order NLO polymers can be efficiently poled, yielding second-order optical susceptibility as high as 300 pm/V. Long-term temporal stability of the poling-induced order (e.g., no significant NLO decay is observed for >2000 h) can be realized by crosslinking the polymer backbone.
CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 35, 38, 73
ST crosslinkable polymer nonlinear optics; optical nonlinear property crosslinkable polymer
IT Chains, chemical
(structure of, of crosslinkable polymers with chromophore in main chains, second-order nonlinear optical properties in relation to)
IT Polysulfones, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyester-, azo-containing, preparation and second-order nonlinear optical properties of)
IT Urethane polymers, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polysulfone-, azo-containing, preparation and second-order nonlinear optical
properties of)
IT Polyesters, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)

(polysulfone-, azo-containing, preparation and second-order nonlinear optical
properties of)
IT Polysulfones, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(polyurethane-, azo-containing, preparation and second-order nonlinear optical
properties of)
IT Optical nonlinear property
(susceptibility, second-order, of crosslinkable polymers containing chromophores in their main chains, structure effect on)
IT **9011-14-7DP**, PMMA, reaction products with azo compound **chromophore** 150701-40-9P 150701-43-2P 150719-83-8P
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and second-order nonlinear optical properties of crosslinkable)
IT **9011-14-7DP**, PMMA, reaction products with azo compound **chromophore**
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation and second-order nonlinear optical properties of crosslinkable)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



L42 ANSWER 21 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:651181 HCAPLUS
DN 119:251181
TI A novel poling process for polymeric thin films exhibiting second harmonic generation
AU Barry, Stephen E.; Soane, David S.
CS Dep. Chem. Eng., Univ. California, Berkeley, CA, 94720, USA
SO Materials Research Society Symposium Proceedings (1992), 277(Macromolecular Host-Guest Complexes: Optical, Optoelectronic, and Photorefractive Properties and Applications), 223-8
CODEN: MRSPDH; ISSN: 0272-9172
DT Journal
LA English
AB CO2 is used to induce glass transition in amorphous polymer films, allowing efficient alignment of chromophores with an applied elec. field. The noncentrosym. films thus produced are capable of second harmonic generation (SHG). This method has advantages over previously investigated poling schemes, including poling at ambient temps. and use of polymers with high glass-transition temperature Several polymeric systems have been studied. The chromophores were either dissolved in the polymer, attached as a side chain, or incorporated into the backbone of the polymer. The SHG of the films was observed as a function temperature Of the systems studied,
polyether sulfone retains SHG capability to the highest temperature Two different systems had the greatest retention of SHG up to the

glass-transition temperature They were Poly(4-N-ethylene-N-ethylamino)-α-cyanocinnimate), a polymer which has the chromophore incorporated in the backbone, and 4-(dimethylamino)-4'-(dimesitylboro)azobenzene, a host-guest system with a relatively large chromophore. These and other systems will be discussed.

CC 37-5 (Plastics Manufacture and Processing)
Section cross-reference(s): 73

ST poling polymer second harmonic generation; chromophore alignment polymer carbon dioxide

IT Dielectric polarization
Electrooptical effect
(of polymers with or without main-chain chromophores)

IT Optical nonlinear property
(second-harmonic generation, of polymers with or without main-chain chromophores)

IT **9011-14-7P**, PMMA
RL: **PREP (Preparation)**
(**chromophore**-containing, second harmonic generation of)

IT 124-38-9, Carbon dioxide, uses
RL: USES (Uses)
(diluent, for polymers with chromophores, second harmonic generation in relation to)

IT 2872-52-8P, Disperse Red 1 4584-57-0P, 4-(Dimethylamino)-4'-nitrostilbene 138886-38-1P
RL: PREP (Preparation)
(polymer blends, second harmonic generation of)

IT 109850-30-8 127939-69-9
RL: PROC (Process)
(second harmonic generation of)

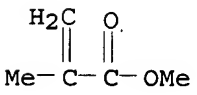
IT **9011-14-7P**, PMMA
RL: **PREP (Preparation)**
(**chromophore**-containing, second harmonic generation of)

RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



L42 ANSWER 22 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1993:22707 HCAPLUS
DN 118:22707
TI Studies on photopolymerization and photocuring initiated by novel dialkyl peroxides having chromophore
AU Higuchi, Yoshiki; Suyama, Shuji
CS Fine Chem. Polym. Res. Lab., NOF Corp., Taketoyo, 470-23, Japan
SO Polymer Journal (Tokyo, Japan) (1992), 24(11), 1181-8
CODEN: POLJB8; ISSN: 0032-3896
DT Journal
LA English
AB New dialkyl peroxides having an aryl ketone chromophore were synthesized

by the reaction of tert-Bu hydroperoxide with isopropylbenzene derivs. These peroxides had UV absorption bands >300 nm. The free radicals produced during photolysis effectively initiated the polymerization of Me methacrylate and multifunctional acrylates at room temperature Photopolymn. rates were as fast as those by the known tert-Bu peresters having a benzophenone chromophore. When acrylate resins were photocured with the dialkyl peroxides, the resulting coating exhibited no yellow coloration. The storage stability of the dialkyl peroxides was superior to that of the peresters.

CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 42

ST photopolymn catalyst peroxide ketone chromophore; methacrylate polymn catalyst peroxide; acrylate resin photocrosslinking catalyst peroxide; butyl hydroperoxide reaction isopropylbenzene deriv

IT Coating materials
(acrylate resins, UV crosslinking of, catalysts for, dialkyl peroxides having aryl ketone chromophore as)

IT Polyesters, compounds
RL: USES (Uses)
(acrylate-terminated, coatings, UV crosslinking of, catalysts for, dialkyl peroxides having aryl ketone chromophore as)

IT Epoxy resins, compounds
Urethane polymers, compounds
RL: USES (Uses)
(acrylates, coatings, UV crosslinking of, catalysts for, dialkyl peroxides having aryl ketone chromophore as)

IT Polymerization catalysts
(photochem., dialkyl peroxides having aryl ketone chromophore, for Me methacrylate)

IT Crosslinking catalysts
(photochem., dialkyl peroxides having aryl ketone chromophore, for acrylate resin coatings)

IT 79506-32-4P 135369-75-4P 135369-87-8P 137489-71-5P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(catalysts, preparation of, for photopolymn. of Me methacrylate and photocuring of acrylate resins)

IT 102-71-6, Triethanolamine, uses
RL: USES (Uses)
(photocrosslinking of acrylate resin coatings with dialkyl peroxide catalysts in presence of)

IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, catalysts for, dialkyl peroxides having aryl ketone **chromophore** as)

IT 75-91-2, tert-Butyl hydroperoxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with isopropylbenzene derivs.)

IT 21192-57-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with tert-Bu hydroperoxide)

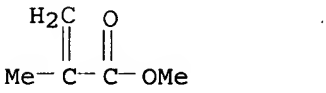
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, catalysts for, dialkyl peroxides having aryl ketone **chromophore** as)

RN 9011-14-7 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2

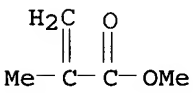


L42 ANSWER 23 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1992:613046 HCAPLUS
DN 117:213046
TI Photolysis and photopolymerization of novel organic peroxides having a benzophenone chromophore
AU Suyama, Shuji; Higuchi, Yoshiki; Kumura, Hiromi
CS Fine Chem. Polym. Res. Lab., NOF Corp., Taketoyo, 470-23, Japan
SO Chemistry Letters (1992), (9), 1705-8
CODEN: CMLTAG; ISSN: 0366-7022
DT Journal
LA English
AB Dialkyl peroxides having a benzophenone chromophore were successfully prepared from the reaction of 2-tert-butyldioxy-2-methyl-1-propanol and benzophenone carbonyl chloride derivs. These peroxides had UV absorption above 300 nm. The free radicals produced during the photolysis of these compds. initiated the radical polymerization of Me methacrylate at room temperature
CC 35-3 (Chemistry of Synthetic High Polymers)
ST polymn catalyst peroxide benzophenone chromophore; photolysis peroxide benzophenone chromophore; methacrylate polymn catalyst peroxide benzophenone
IT Photolysis
(of organic peroxides having benzophenone chromophore, catalysis of Me methacrylate polymerization in relation to)
IT Quenching
(of organic peroxides having benzophenone chromophore, kinetics of, catalysis of Me methacrylate polymerization in relation to)
IT Kinetics of polymerization
(photochem., of Me methacrylate, in presence of organic peroxides having benzophenone chromophore)
IT Polymerization catalysts
(photochem., organic peroxides having benzophenone chromophore, preparation and photolysis and use of, for Me methacrylate)
IT 17393-39-4
RL: CAT (Catalyst use); USES (Uses)
(catalysts, containing benzophenone, for Me methacrylate polymerization)
IT 119-61-9, Benzophenone, uses
RL: CAT (Catalyst use); USES (Uses)
(catalysts, containing tert-butyldioxymethylpropanol, for Me methacrylate polymerization)
IT 135369-75-4
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for Me methacrylate polymerization)
IT 144429-72-1P 144429-73-2P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(catalysts, preparation and photolysis and use of, in Me methacrylate polymerization)

IT 80-62-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(polymerization of, kinetics of, in presence of organic peroxide catalysts having
benzophenone chromophore)
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, in presence of organic peroxide catalysts having benzophenone
chromophore)
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(preparation of, in presence of organic peroxide catalysts having benzophenone
chromophore)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2

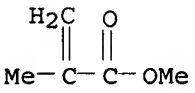


L42 ANSWER 24 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:229425 HCAPLUS
DN 108:229425
TI Solid-phase photoreduction of phenanthrenequinone in a polymeric matrix
AU Bandyuk, O. V.; Shelekhov, N. S.; Popov, A. P.; Danilova, M. Ya.
CS USSR
SO Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1988), 61(4), 946-8
CODEN: ZPKHAB; ISSN: 0044-4618
DT Journal
LA Russian
AB Quantum yield of photoredn. of phenanthrenquinone in nonplasticized PMMA matrix equaled 0.5 ± 0.1. The reaction products comprised chromophoric groups of the phenanthrene structure covalently bonded to through the C-H bonds to the matrix macromols. The structure of the main chain of the polymer macromol. remained unchanged, and the above photoreaction did not lead to their destruction or crosslinking.
CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST phenanthrenequinone photoredn solid PMMA matrix
IT Reduction, photochemical
(of phenanthrenequinone in polymeric matrix)
IT **9011-14-7DP**, PMMA, compound with phenanthrene -**chromophores**
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in solid-phase photoredn. of phenanthrenequinone in PMMA matrix)
IT 9011-14-7, PMMA
RL: PRP (Properties)
(photoredn. of phenanthrenequinone in polymeric matrix of)

IT 84-11-7, Phenanthrenequinone
RL: RCT (Reactant); RACT (Reactant or reagent)
(photoredn. of, in solid polymeric matrix)
IT **9011-14-7DP**, PMMA, compound with phenanthrene -**chromophores**
RL: FORM (Formation, nonpreparative); **PREP (Preparation)**
(formation of, in solid-phase photoredn. of phenanthrenequinone in PMMA matrix)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2

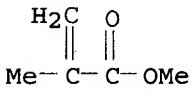


L42 ANSWER 25 OF 25 HCAPLUS COPYRIGHT 2005 ACS on STN
AN 1988:6716 HCAPLUS
DN 108:6716
TI Photoprocesses in statistical, end-labeled, and block copolymers containing naphthalene chromophores
AU Chen, Liusheng; Winnik, Mitchell A.; Al-Takrity, Emaad Taha Bakir; Jenkins, Aubrey D.; Walton, David R. M.
CS Erindale Coll., Univ. Toronto, Toronto, ON, M5S 1A1, Can.
SO Makromolekulare Chemie (1987), 188(11), 2621-9
CODEN: MACEAK; ISSN: 0025-116X
DT Journal
LA English
AB Fluorescence spectroscopy in highly dilute solns. was used to study the emission from naphthyl groups attached to PMMA mols. prepared by (i) free-radical polymerization, giving an essentially random distribution of naphthyl groups along the chain, and (ii) anionic polymerization, producing polymers with naphthyl groups in terminal units only. The influence of mol. architecture on the fluorescence was discussed. In particular, it was possible to incorporate one single naphthyl group at one end of a polymer chain but that attempts to introduce a controlled greater number led to a product with a distribution of naphthyl-group contents.
CC 36-2 (Physical Properties of Synthetic High Polymers)
ST naphthyl contg PMMA photoprocess; fluorescence naphthyl contg PMMA
IT Fluorescence
(of Me methacrylate polymers containing naphthalene chromophores)
IT Polymerization catalysts
(anionic, lithium naphthyl derivs., for Me methacrylate, fluorescence spectra in relation to)
IT Polymerization
(anionic, of Me methacrylate, in presence of lithium naphthyl derivs., fluorescence spectra in relation to)
IT Polymerization
(radical, of Me methacrylate, with naphthylmethyl methacrylate, fluorescence spectra in relation to)
IT 111928-36-0 111928-37-1
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for anionic polymerization of Me methacrylate, fluorescence

spectra in relation to)
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(naphthyl **chromophore** end-labeled, preparation and fluorescence spectroscopic study of)
IT 110971-37-4P 111898-22-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and fluorescence spectroscopic study of)
IT **9011-14-7P**, PMMA
RL: SPN (Synthetic preparation); **PREP (Preparation)**
(naphthyl **chromophore** end-labeled, preparation and fluorescence spectroscopic study of)
RN 9011-14-7 HCAPLUS
CN 2-Propenoic acid, 2-methyl-, methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 80-62-6
CMF C5 H8 O2



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